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EXAMINER	
FLEISCHER, MARK A	
ART UNIT	**PAPER NUMBER**
3624	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/821,464	AMARU ET AL.	
	Examiner	Art Unit	
	MARK A. FLEISCHER	3624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-77* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-77* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 April 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20 October 2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1. This action is in reply to the Application filed on 9 April 2004 and the preliminary amendments thereto filed 20 December 2004 and 8 February 2008.
2. Claims 60–77 have been added in preliminary amendments filed 20 December 2004.
3. Claims 1–7, 10, 14–23, 25–35, 38, 42–51, 53–60, 63, 66, 69, 72 and 75 have been amended.
4. Claims 1–77 are currently pending and have been examined.

Priority

5. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. §119(e) or under 35 U.S.C. §120, §121, or §365(c) is acknowledged.

Information Disclosure Statement

6. The Information Disclosure Statement filed on 20 October 2006 has been considered. An initialed copy of the Form 1449 is enclosed herewith.

Drawings

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "1" has been used to designate several of the items in Figure 3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any

required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

8. Applicant is reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract **not exceed 150 words** in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details. The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc. The abstract of the disclosure is objected to because it exceeds the length requirements as noted above. Correction is required. See MPEP § 608.01(b).

Claim Objections

9. Claim 16 objected is to because of the following informalities: the phrase "the comprising…" should read "the method comprising…"

10. Claims 12, 13, 40 and 41 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. §112:

    The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 1–77 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, independent claims 1, 16, 21, 29, 44, 49, 57, 58 and 59 recite a formula *f* that takes real-valued arguments (as noted below in the following rejections) where the formula is only symbolically indicated and the number of parameters is uncertain. This functional form could be any function, step or otherwise, and hence, is *prima facie* vague and indefinite as one of ordinary skill in the art would not be able to determine the scope of the invention as the formula itself is not indicated and presented only in abstract form. The remaining claims are dependent on these claims and so are also vague and indefinite.

13. Claims 10, 14, 15, 18, 38, 42, 43, and 46 recite "depends on a number…" and in some of these claims further recites "number of distinct results generated and saved." wherein the terms "distinct results" is vague and indefinite and neither the specification nor the claims themselves provide any meaning as to what is meant by these terms. Thus, the determination of the metric *M* which "depends" on such elements is vague and indefinite as the manner in which the value is to be calculated is also vague and indefinite.

14. Claims 1, 16, 20, 25, 29, 44, 49, 53, 54, 57, 58 and 59 recite "*X* denotes zero or more additional parameters" and is *prima facie* vague and indefinite. Moreover, claims 25, 26, 53 and 54 follow the aforementioned phrase with the subsequent phrase "include a parameter…" and is therefore inconsistent with the possible zero number of parameters. Thus, zero or more parameters cannot also entertain the definite inclusion of a parameter such as "number of available features". This inconsistency therefore renders these claims vague and indefinite.

Claim Rejections - 35 USC § 101

15. 35 U.S.C. §101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

16. Claims 1–77 are rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter. Based on Supreme Court precedent, and recent Federal Circuit decisions, the Office's guidance to examiners is that a §101 process must (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780,787-88 (1876). An example of a method claim that would not qualify as a statutory process would be a claim that recited purely mental steps. Thus, to qualify as a §101 statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example by identifying the apparatus that accomplishes the method steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being changed to a different state. Examiner notes that while these claims tangentially recite some components of the elements of another statutory class, they are insufficient to substantively tie them to another statutory class in that no correspondence is discernable between the various method steps and the particular components of the computer system.

The claims are also non-statutory because they essentially claim abstract ideas that are based on abstract ideas. The concept of measuring complexity, the use of ontological theories and meta-model constructs pervade all of the claims herein and only provide a vague notion of how they are substantively tied to another statutory class such as a system or tangible embodiment on computer readable medium. To merely state that the ideas are amenable to such embodiments, for example as in the preamble to claim 57, do not cure the fundamental defects of the claims as to how they are particularly embodied in an invention. Applicant is suggesting by way of the claim language, that such embodiment can be taken as an article of faith. The essence of the invention however remains one based on and encompassed exclusively by a set of abstract ideas, hence does not conform to the statutory requirements for patentability.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18. Claims 1, 21, 29, 49, 57, 58 and 59 are rejected under 35 U.S.C. §103(a) as being unpatentable over Halbout, et al. (US 6978257 B1) in view of Wachtel (US 6847974 B2) and further in view of Ruiz, et al. (*A proposal of a Software Measurement Ontology*).

Claims 1, 16, 21, 29, 44, 49, 57, 58 and 59:

Although claims 1, 16, 21, 29, 44, 49, 57, 58 and 59 are worded and/or structured slightly differently, they have the same scope and so are addressed together. Halbout teaches the following limitations as shown.

- *A method, implemented in a data processing system, for determining complexity of an enterprise information resource management system* (Halbout [abstract] describes and/or discloses methods for accounting for system and application complexity. Halbout [6,14] describes "the amount and type of information or service.),

Halbout does not specifically teach the following limitations, but Wachtel, as shown, does.

- *the enterprise information resource management system being used to contain an ontology into which a plurality of enterprise data assets are mapped, the ontology including a plurality of model constructs, the enterprise data assets including a plurality of assets constructs, and the mappings between the enterprise data assets and the ontology including a plurality of mapping constructs* (Wachtel in at least [3,53] teaches use of information systems containing a number of ontological constructs, and in [6,28] describes methods for mapping of data into an assimilation system ontology.) *the method comprising:*
- *(an input device for) receiving* (Wachtel [1,18] describes servers that receive requests from clients.) *(i) a quantity of distinct asset constructs, denoted by* C_{ASSET}*, (ii) a quantity of distinct mapping constructs, denoted by* $C_{MAPPING}$*, and (iii) a quantity of distinct model constructs, denoted by* C_{MODEL} (Wachtel [3,53] refers to ontological relationships between semantic constructs and in [abstract] also refers to various "structures" which also corresponds to *constructs* and Wachtel [9,5] refers to a "model" and in [12, 20] refers to a plurality of models. Finally, Wachtel [6,27] refers to "an ontology designer" that encompasses methods to map data, hence corresponds to a number of mapping constructs. Wachtel also describes objects which corresponds to *constructs* and generally describes how these objects and constructs are connected and linked.)*;*
- *(a transaction processing system for receiving the metric M and) using the metric M within a transaction processing system, for licensing [ ] the enterprise information resource management system* (Halbout [1,9] teaches methods to value the outsourcing of services.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the methods for accounting system complexity of Halbout with the ontological mapping methods of Wachtel to assess the complexity of software and information systems because it provides

useful information on the scalability of system elements and objects and thereby provides some measure of the complexity of the system and the technical capability existed at the time of the invention to combine these aspects and the result of the combination was predictable.

Neither Halbout nor Wachtel specifically teach the following limitations, but Ruiz as shown does.

- *(a processor coupled to said input device, the processor for) evaluating a metric of complexity, denoted by M, for the enterprise information resource management system having a capacity corresponding to* C_{ASSET}, $C_{MAPPING}$ *and* C_{MODEL}, *wherein the metric of complexity is evaluated according to a formula*

  $$M = f(C_{ASSET}, C_{MAPPING}, C_{MODEL}, X),$$

  where f is a real-valued function of three or more real-valued parameters and X denotes zero or more additional parameters (Ruiz, in at least p.2 teaches use of metrics for software measurement ontologies and associates them with number of lines of source code and related elements and on p. 6 also to "size" as it is related to software complexity and on p.9 describes a formula for obtaining the value of the metric.)

While neither Halbout, Wachtel nor Ruiz teach methods for software licensing *per se*, it is obvious to use the valuation methods described therein for purposes of price-setting in licensing matters. Examiner takes **Official Notice** that it is it is old and well-known as well as common place in the business management arts that licensing of property is based on the value-added expected to the licensee. Moreover, any entity that sought to determine licensure valuation would of necessity seek to determine the valuation of such information assets. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Halbout, Wachtel and Ruiz in conjunction with what is old and well-known, to determine the value of software based on the usage and complexity of the information system and the technical capability existed at the time of the invention to combine these aspects and the result of the combination was predictable..

Claims 2, 17, 22, 30, 45 and 50:

Halbout does not specifically teach the following limitations, but Wachtel, in a related art, does as shown.

- *the plurality of enterprise data assets include conformed assets that conform to a general data schema that uses element group asset constructs and element asset constructs* (Wachtel [8,45-56] describes a generalized mechanism for data assimilation in accordance to business rules which corresponds to a schema for relating to particular business processes.).
- *the metadata constructs comprise instances of meta-model constructs* (Wachtel [7,2] describes metadata store which corresponds to a meta-model construct.).
- *at least one meta-model comprises a schema for relational database schemas, and wherein at least one metadata construct corresponds to a table of a relational database schema* (Wachtel [6,27] teaches an ontology designer that provides mapping between data constructs and semantic objects in a data assimilation system repository, i.e., a database.*)*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Halbout and Wachtel to model enterprise data assessment methods based on a general scheme or plan so as to provide a measure of the system capacity (Halbout [abstract]) and hence provide methods to produce adjustments to the service evaluation (Halbout [2,5-10]) and the technical capability existed at the time of the invention to combine these aspects and the result of the combination was predictable..

Claims 3 and 31:

Halbout does not specifically teach the following limitations, but Wachtel, in a related art, does as shown.

- *the general data schema comprises a relational database schema, the element group asset constructs comprise database tables, and the element asset constructs comprise columns of database tables* (Wachtel [15,66] describes database tables and provides a way of organizing data in the ontology as shown in example databases [1,31].)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the features of Halbout with those of Wachtel and use the database table methodology as it is a common way to depict mappings and relations in an ontology and the technical capability existed at the time of the invention to combine these aspects and the result of the combination was predictable.

Claims 4 and 32:

Halbout does not specifically teach the following limitations, but Wachtel, in a related art, does as shown.

- *the general data schema comprises an XML schema, the element group asset constructs comprise XML complex types and the element asset constructs comprise XML elements* (Wachtel in at least [8,32] describes different data types and in at least [7,8] extensively describes the XML language for data typing and components of an ontology.).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the features of Halbout with those of Wachtel and use the XML language as it is a common way to define data types, depict mappings and relations in an ontology and the technical capability existed at the time of the invention to combine these aspects and the result of the combination was predictable.

Claims 5 and 33:

Neither Halbout, nor Wachtel nor Ruiz specifically refers to cobol data types in an analogous manner as the aforementioned XML data types and constructs above (claims 4 and 32), but Examiner takes **Official Notice** that it is old and well-known as well as common place in the business management and information processing arts to employ different computer languages, particularly COBOL to specify data types and ontologies as COBOL is a well-known and widely used programming language used in business applications. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the features of Halbout with those of Wachtel and use the XML language as it is a common way to define data types, depict mappings and relations in an ontology and the technical capability existed at the time of the invention to combine these aspects and the result of the combination was predictable.

Claims 6 and 34:

Halbout does not specifically teach the following limitations, but Wachtel, in a related art, does as shown.

- *the ontology comprises an ontology model, wherein the model constructs include ontology classes and properties of the ontology classes, and wherein the model constructs further include business rules that inter-relate the properties* (Wachtel [abstract] teaches use of ontological

models and descriptions associated with different classes of objects including workflows that shows how various rules, workflows and elements thereof inter-relate.).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the features of Halbout with those of Wachtel and use the ontological modeling aspects of Wachtel because such modeling is a way of defining information assets and hence in view of the valuation methods of Halbout provide a means to calculate the value of information assets and the technical capability existed at the time of the invention to combine these aspects and the result of the combination was predictable.

Claims 7 and 35:

Halbout does not specifically teach the following limitations, but Wachtel, in a related art, does as shown.

- *the mapping constructs include mappings of element group asset constructs into ontology classes and further include mappings of element asset constructs into ontology properties* (Wachtel [6,27] describes "an ontology designer" that is used to map data into ontology elements, hence classes and groupings (see e.g., [5,62-67].).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the features of Halbout with those of Wachtel and use the ontological modeling aspects of Wachtel because such modeling is a way of defining information assets and hence in view of the valuation methods of Halbout provide a means to calculate the value of information assets and the technical capability existed at the time of the invention to combine these aspects and the result of the combination was predictable.

19. Claims 8, 9 and 36, 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halbout et al. (US 6978257 B1) in view of Wachtel (US 6847974 B2) in view of Ruiz, et al. (*A proposal of a Software Measurement Ontology*) as applied to claims 6 and 34 above, and further in view of Venkatraman, et al. (US 7302410 B1).

Claims 8 and 36:

Neither Halbout nor Wachtel nor Ruiz specifically teach the following limitations, but Venkatraman does. Venkatraman [abstract] teaches an econometric model that uses of step functions (Venkatraman [2,66])

for costing and valuation for a plurality of products which corresponds to different classes of constructs. Venkatraman [5,49] refers to demand groups which corresponds to the plurality, associated attribute information and process time. This econometric data is then used with a base price step function (Venkatraman [2,66]) to determine value (see e.g., Venkatraman [53,18]). Venkatraman does not specifically refer to *cutoff points* or *constructs per se,* but Examiner takes **Official Notice** that it is old and well-known as well as common place in the econometric and mathematical arts that step functions typically have finite limit or cutoff points wherein the variables in question map to the specified function value. Moreover, the different types of constructs of the instant application are analogous to the different product classes, categorizations and factors and "causal variables" in Venkatramen (see e.g., [8,16]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the ontological and data modeling methods of Halbout, Wachtel and Ruiz with the econometric valuation models of Venkatraman because Venkatraman provides a method for valuing different classes of products based on demand and usage of products and categories of products which is analogous to the number of constructs. Thus, the prior art provides comparable techniques that are used to improve the valuation process and the technical ability existed to improve the valuation of information system assets where the resulting improvement was predictable.

Claims 9 and 37:

Neither Halbout nor Wachtel nor Ruiz specifically teach the following limitations, but Venkatraman does. Venkatraman [abstract] teaches an econometric model that uses of step functions (Venkatraman [2,66]) for costing and valuation for a plurality of products which corresponds to different classes of constructs and further defines the step function value as the weighted average calculated for a plurality of product classes (Venkatramen [15,33]-[16,40]). Venkatraman does not specifically refer to *cutoff points* or *constructs per se,* but Examiner takes **Official Notice** that it is old and well-known as well as common place in the econometric and mathematical arts that step functions typically have finite limit or cutoff points wherein the variables in question map to the specified function value. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the ontological and data modeling methods of Halbout, Wachtel and Ruiz with the econometric valuation

models of Venkatraman because Venkatraman provides a method for valuing different classes of products based on weighted average of product classes which is analogous to the weighted average of the number of constructs. Thus, the prior art provides comparable techniques that are used to improve the valuation process and the technical ability existed to improve the valuation of information system assets where the resulting improvement was predictable.

Claims 10 and 38:

Halbout teaches the following limitations as shown.

- *the enterprise information resource management system generates results for tasks, and wherein the metric M also depends on a number of distinct results generated and saved* (Halbout [3,30] describes and/or discloses "published benchmark results". Halbout [4,5-7] describes and/or discloses metrics associated with the benchmark results.).

Claims 11 and 39:

Halbout does not specifically teach the following limitations, but Wachtel does as shown.

- *the results include data transformations* (Wachtel [9,54] refers to data fields that are translated, hence transformed).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the capability to transform data into forms that are convenient and necessary in order to produce desired results. Furthermore, Examiner takes **Official Notice** that it is old and well-known as well as common place in the information processing arts that various data types must often be transformed in the processing of desired results and that the technical capability for performing such transformations existed at the time of the invention and the resulting benefit and/or combination was predictable.

Claims 12 and 40:

Halbout does not specifically teach the following limitations, but Wachtel does as shown.

- *the results include SQL queries* (Wachtel in at least [16,43] describes SQL queries.).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the capability to transform data into forms that are convenient and necessary in order to

produce desired results. Furthermore, Examiner takes **Official Notice** that it is old and well-known as well as common place in the information processing arts to use various SQL queries in the processing of desired results and that the technical capability for performing such transformations existed at the time of the invention and the resulting benefit and/or combination was predictable.

Claims 13 and 41:

Halbout does not specifically teach these limitations, but Wachtel in at least [2,31] describes use of XML for data structures and typing. Examiner takes **Official Notice** that it is old and well-known as well as common place in the data processing arts to utilize methods to translate one data type or structure into another data type or structure such as by using XSLT scripts for use with XML data. Note also that Wachtel [16,39] refers to data translation. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the capability to transform data into forms that are convenient and necessary in order to produce desired results using XSLT scripts and that the technical capability for performing such transformations existed at the time of the invention and the resulting benefit and/or combination was predictable.

Claims 14 and 42:

Neither Halbout nor Wachtel specifically teach these limitations, but Ruiz teaches methods for measuring software complexity. Ruiz p.6, for example, describes “observations” based on size such as number of lines of source code and measurement functions used for producing a metric. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made incorporate the teachings of Ruiz with those of Halbout and Wachtel and provide a measurement based on the size of reports and code associated with producing said reports so as to provide a useful measure of complexity and its use in valuation and that the technical capability for performing such transformations existed at the time of the invention and the resulting benefit and/or combination was predictable.

Claims 15, 18, 43 and 46:

Halbout does not specifically teach these limitations, but Wachtel in at least [3,60] describes a metadata store, hence records metadata. Neither Halbout nor Wachtel describe use of metadata to produce a metric *per se,* but Ruiz, p.11 teaches “A Metamodel for Software Measurement” which *ipso facto* involves

metadata. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made incorporate the teachings of Ruiz with those of Halbout and Wachtel and provide a measurement based on metadata so as to provide a useful measure of complexity and its use in valuation and that the technical capability for performing such transformations existed at the time of the invention and the resulting benefit and/or combination was predictable.

Claims 19 and 47:

Neither Halbout nor Wachtel describe use of a meta-model as a schema for relational database schemas including a table thereto, but Ruiz, in at least p.3 teaches a software measurement meta-model in the context of prediction systems (Ruiz, p.1) and use of data elements and information needs (p.4) hence corresponds to use of databases. Ruiz also teaches on p.4 use of database tables associated with ontology diagrams. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made incorporate the teachings of Ruiz with those of Halbout and Wachtel and provide a measurement based on metadata, meta-models and relationships to relational databases and database tables so as to provide a useful measure of complexity and its use in valuation and that the technical capability for performing such transformations existed at the time of the invention and the resulting benefit and/or combination was predictable.

Claims 20, 23, 48 and 51:

Halbout does not specifically teach these limitations, but Wachtel does. Wachtel [6,27] describes an ontology designer and in [5,51-67] teaches use of XML and semantic mapping tools ([5,63]), hence is a schema and set of rules as in [8,45] and, finally, in [6,43] refers to highly abstracted complex data, hence corresponds to *a complex element of an XML schema*. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made incorporate the teachings of Ruiz with those of Halbout and Wachtel and provide a measurement based on metadata, meta-models and XML schema so as to provide a useful measure of complexity of data and its use in valuation and that the technical capability for performing such transformations existed at the time of the invention and the resulting benefit and/or combination was predictable.

Claims 24 and 52:

Halbout does not specifically teach these limitations, but Wachtel does. Wachtel [11,46] teaches use of a semantic descriptor and in [17,5] teaches use of a native descriptor associated with metadata, hence a meta-model construct. Examiner takes **Official Notice** that it is old and well-known as well as common place in the information systems arts to associate data descriptors with particular data assets and include them within meta-model constructs. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made incorporate the teachings of Ruiz with those of Halbout and Wachtel and provide a measurement based on metadata wherein the metadata provides descriptors of data assets. and that the technical capability for performing such transformations existed at the time of the invention and the resulting benefit and/or combination was predictable.

20. Claims 25–28, 53–56, 60, 63, 66, 69, 72 and 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halbout et al. (US 6978257 B1) in view of Wachtel (US 6847974 B2) in view of Ruiz, et al. (*A proposal of a Software Measurement Ontology*) as applied to claims 21 and 49 above and further in view of Ruffin (US 6219654 B1).

Claims 25, 26, 53 and 54:

Neither Halbout nor Wachtel nor Ruiz specifically teach the following limitations, but Ruffin, in an analogous art teaches a method for performing cost analysis of an information technology implementation that incorporates the value of the *number of users* (see Ruffin [10,45]) and the number of features (see e.g., Ruffin [4,8-12]) to compute a metric. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made incorporate the teachings of Ruffin with those of Halbout, Wachtel and Ruiz and provide a measurement based on the number of users and features of such a data respository as disclosed in Ruffin because the number of users and features is a method of determining demand, hence value, and that the technical capability for performing such transformations existed at the time of the invention and the resulting benefit and/or combination was predictable.

Claims 27, 28, 55 and 56:

Neither Halbout nor Wachtel nor Ruiz nor Ruffin expressly teach *an available feature comprises an ability to change a meta-model,* but Examiner takes **Official Notice** that it is old and well-known as well as common place in the data processing arts to provide the capability to edit and modify or batch-scan any

meta-data and/or meta-models associated with an information system. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made incorporate what is old and well-known with those of Halbout, Wachtel, Ruiz and Ruffin and provide metadata and metamodel modification features because they provide a means to enable and facilitate the valuation of such information under circumstances where data may need to be modified or input in large batches and that the technical capability for performing such features existed at the time of the invention and the resulting benefit and/or combination was predictable.

Claims 60, 63, 66, 69, 72 and 75:

Neither Halbout nor Wachtel specifically teach *limiting the complexity of the enterprise information resource management system to a specified limit by restricting the quantities* C_{ASSET}, $C_{MAPPING}$, *and* C_{MODEL}, but Ruiz p.11 teaches use of restricting values to certain specified ranges pertaining to an ontology measurement which corresponds to *limiting the complexity of enterprise information* since the ontology metric is a measure of complexity. Moreover, Examiner takes **Official Notice** that it is old and well-known as well as common place in the computational sciences to restrict values of certain variables and data so as to render computations based thereon as meaningful and to otherwise ensure data integrity. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made incorporate what is old and well-known with those of Halbout, Wachtel, Ruiz and Ruffin and provide restrictions on values associated with the numbers of constructs within an ontology model because they make such models more meaningful (Ruiz p.11) and thus provide a means to enable and facilitate the valuation of such information and that the technical capability for performing such features existed at the time of the invention and the resulting benefit and/or combination was predictable.

21. Claims 61, 62 64, 65, 67, 68, 70, 71, 73, 74, 76 and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halbout et al. (US 6978257 B1) in view of Wachtel (US 6847974 B2) in view of Ruiz, et al. (*A proposal of a Software Measurement Ontology*) as applied to claims 60, 63, 66, 69, 72 and 75 above and further in view of Raiz et al. (US 7278164 B2).

Claims 61, 64, 67, 70, 73 and 76:

Neither Halbout nor Wachtel nor Ruiz specifically teach *the specified limit is determined from a license key for the enterprise information resource management system,* but Raiz, in a related art does. Raiz, in at least [8,25-35] teaches how license keys in conjunction with business rules determine the total number of users or limited validity period or with restricted functionality or capabilities. While it does not specifically relate to constructs, *per se* it is associated with groups of application program within enterprises [2,13] and database technologies ([6,Table II]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the ontological metric techniques in the combination of Halbout, Wachtel and Ruiz with the system licensing capability of Raiz because such licensing capability helps to preserve the intellectual property value of the information system (Raiz [2,66]) and that the technical capability for performing such features existed at the time of the invention and the resulting benefit and/or combination was predictable.

Claims 62, 65, 68, 71, 74 and 77:

Neither Halbout nor Wachtel nor Ruiz nor Raiz specifically teach that different incarnations of an information resource management system may have different specified limits, but Examiner takes Official Notice that it is old and well-known as well as common place in the information technology arts that such systems differ in complexity, and *ipso facto* will often have different measures of complexity, hence differing limits per the formulation in the preceding claims. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the ontological metric techniques in the combination of Halbout, Wachtel and Ruiz with the system licensing capability of Raiz because such licensing capability helps to preserve the intellectual property value of the information system (Raiz [2,66]) and that the technical capability for performing such features existed at the time of the invention and the resulting benefit and/or combination was predictable.

Conclusion

Any inquiry of a general nature or relating to the status of this application or concerning this communication or earlier communications from the Examiner should be directed to **Mark A. Fleischer** whose telephone number is **571.270.3925.** The Examiner can normally be reached on Monday-Friday, 9:30am-5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, **Bradley Bayat** whose telephone number is **571.272.6704** may be contacted.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://portal.uspto.gov/external/portal/pair <http://pair-direct.uspto.gov >. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866.217.9197** (toll-free).

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Examiner, Art Unit 3624 10 December 2008

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